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OUTLINE OF VOCATIONAL TRAINING IN ZAMBIA.

AUSTRALIAN DEPT. OF LABOUR AND NAT. SERVICE, PERTH

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THE 1963 POPULATION OF ZAMBIA WAS APPROXIMATELY 3.5 MILLION. THE 8-YEAR PRIMARY EDUCATION PROGRAM IS FOLLOWED BY SECONDARY, SECONDARY TECHNICAL, AND TRADE SCHOOL OPTIONS. THERE IS AN INCREASE IN ADULT EDUCATION AT THE PRIMARY AND SECONDARY LEVELS. CRAFT AND TECHNICIAN LEVEL PROGRAMS ARE CONDUCTED AT NORTHERN TECHNICAL COLLEGE AND ITS ANCILLARY CENTERS. EVELYN HONE COLLEGE OF FURTHER EDUCATION IS CONCERNED WITH COMMERCIAL AND BUSINESS TRAINING, COMMUNICATION, HOTEL AND CATERING TRADES, HOME ECONOMICS, ADULT EDUCATION, APPLIED SCIENCE, TELECOMMUNICATIONS, AND, IN THE FUTURE, ENGINEERING AND CONSTRUCTION. TRADE COURSES ARE AVAILABLE IN THREE TRADE SCHOOLS, AND OTHER TRAINING ESTABLISHMENTS, UNDER GOVERNMENT DEPARTMENTS, OFFER COURSES FOR UPGRADING CIVIL SERVICE EMPLOYEES AND TRAINING AGRICULTURAL TECHNICIANS, VETERINARY STAFF, NURSES, MEDICAL TECHNICIANS, AND HEALTH INSPECTORS. TECHNICAL TEACHERS ARE TRAINED IN LOCAL CENTERS AND IN OVERSEAS COURSES. APPRENTICESHIP IS ORGANIZED IN 46 TRADES UNDER GOVERNMENT SUPERVISION. IN-INDUSTRY TRAINING PROGRAMS ARE PROMOTED AND DEVELOPED BY THE GOVERNMENT. IT IS PROPOSED TO SET UP BUILDING TRADES TRAINING CENTERS UNDER GOVERNMENT SPONSORSHIP FOR ACCELERATED TRAINING FOR BUILDING OPERATIVES. THE ADVISER FOR FURTHER EDUCATION HAS INITIATED A COMPREHENSIVE SCHEME FOR TRAINING LEARNER CRAFTSMEN, TECHNICIANS, AND TECHNOLOGISTS. RECOMMENDATIONS ARE BEING IMPLEMENTED TO PROVIDE THE NECESSARY SPECIALIST ADMINISTRATION AND COORDINATION OF TECHNICAL EDUCATION AND TO OBTAIN THE NECESSARY QUALIFIED PERSONNEL. (JM)

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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in

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PREPARED BY THE DEPARTMENT OF LABOUR AND NATIONAL SERVICE
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PAN INDIAN OCEAN CONFERENCE ON TECHNICAL EDUCATION AND TRAINING
PERTH, 1966

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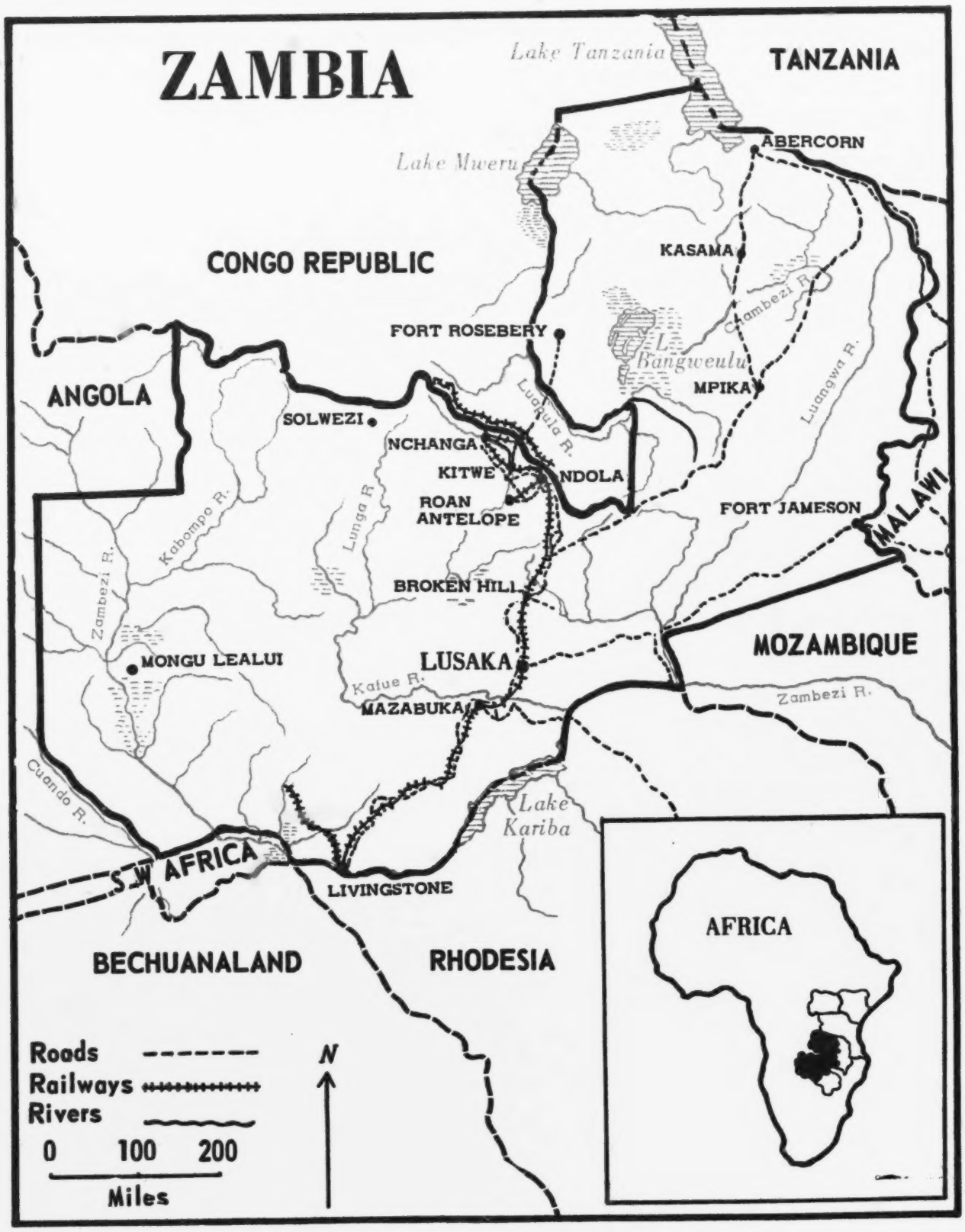
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1. Introduction

Area, Population

Zambia covers an area of 290,323 square miles. In June, 1963, the total population was estimated at 3,500,000 of whom about 97 per cent were Africans.

Primary Industry

African farming is conducted mainly at subsistence level and considerable effort is being put forward to increase productivity and extend commercial farming. European-owned farms grow most of the commercial crops, particularly tobacco and maize, which are the major money-earners. Other crops produced commercially include kaffir corn, millet, cassava, ground-nuts and cotton.

Forestry and grazing industries are both of minor importance in Zambia but the potential of the former is quite considerable and is already being opened up by the milling of Rhodesian redwoods.

The life-line of the Zambian economy is its mineral wealth, particularly copper. Copper mining is the principal source of paid employment for both Africans and Europeans, and copper exports provide more than 90 per cent of total export earnings. Zinc, lead, manganese and cobalt are also mined and prospecting is continuing to find new sources of minerals.

Secondary Industry

The industrial sector is growing rapidly. Power from the Kariba Dam is supporting the expansion of industry in the copper belt (the site of most of Zambia's secondary industry) and in the Lusaka area. The Dam is jointly controlled by Rhodesia and Zambia.

Despite this development, secondary industry is still on a small scale and caters mainly for the local market. However, the range of products is wide and includes iron and steel goods, timber, refined sugar, edible oils, paints and cement. There are good prospects for continued industrial growth.

General Economic Development

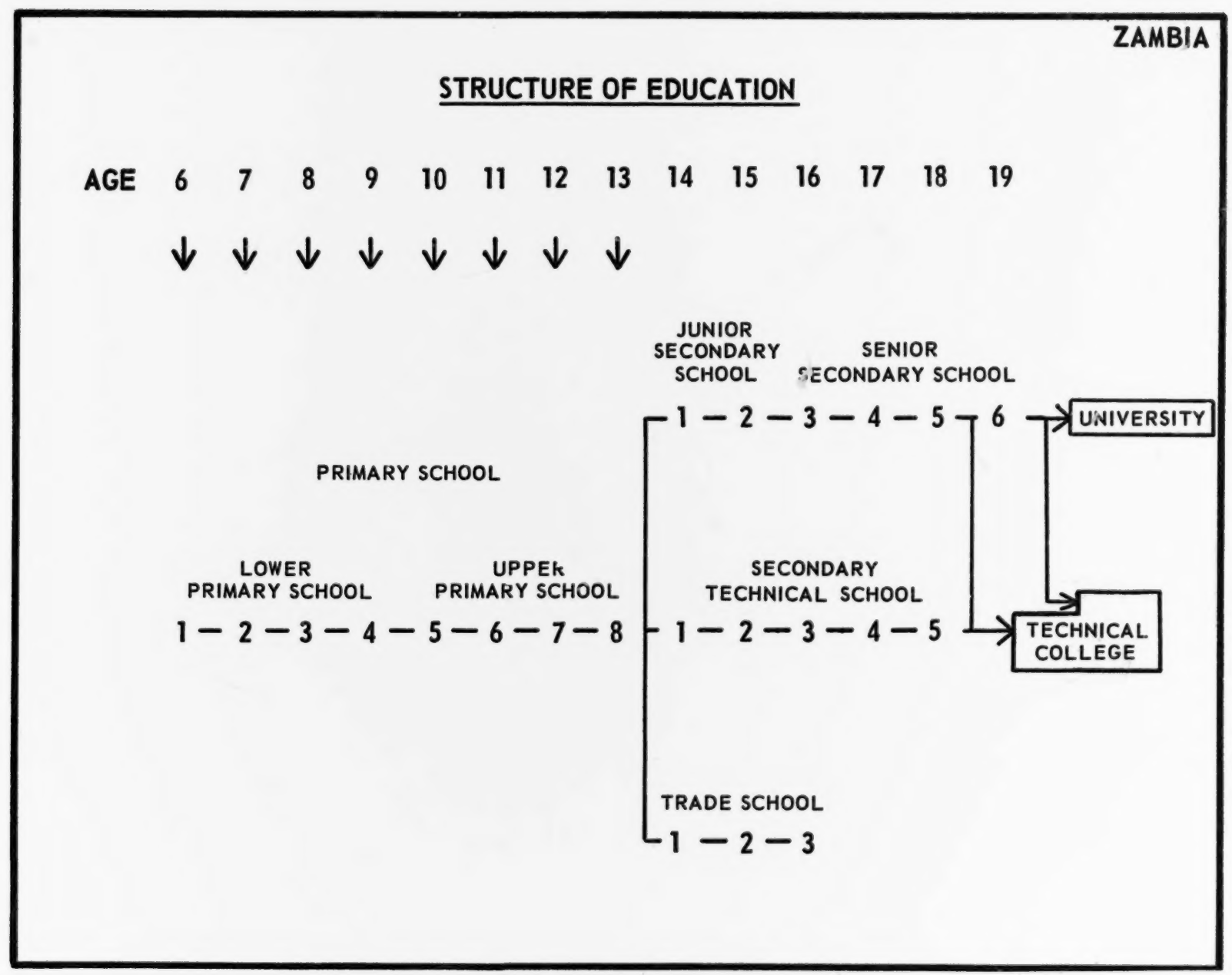
Industrial expansion and improved agricultural and mining methods have helped Zambia to increase both the gross national product and per capita incomes. The mines of the copper belt employ 50,000 workers and the general pattern of economic growth is helping to reduce the still serious pool of unemployment.

1964 was a particularly good year for the mining industry and brought large foreign exchange earnings. Copper exports alone brought £ Stg. 118,000,000 representing 92 per cent of total export income. The remaining £ Stg. 11,000,000 earned from exports was shared mainly between zinc and other minerals, tobacco, ground-nuts and cotton. Principal import commodities are transport equipment, chemicals, mineral fuels and a wide range of consumer goods.

Zambia's economic growth continues to depend on the co-operation of its former partners in the Federation of Rhodesia and Nyasaland. For example, a trading agreement with Rhodesia provides for free trade between the two countries except where Zambian industry needs protection; a transport agreement with Rhodesia and Malawi provides for the joint operation of the Central African Airways and the Rhodesian Railways; and an agreement with Rhodesia provides for the joint operation of, and benefit from the Kariba hydro-electric schemes.

ZAMBIA

STRUCTURE OF EDUCATION


AGE 6 7 8 9 10 11 12 13 14 15 16 17 18 19
JUNIOR SECONDARY SCHOOL
SENIOR SECONDARY SCHOOL
1 — 2 — 3 — 4 — 5 — 6
UNIVERSITY
PRIMARY SCHOOL
LOWER PRIMARY SCHOOL
1 — 2 — 3 — 4 — 5 — 6 — 7 — 8
UPPER PRIMARY SCHOOL
SECONDARY TECHNICAL SCHOOL
1 — 2 — 3 — 4 — 5
TECHNICAL COLLEGE
TRADE SCHOOL
1 — 2 — 3

2. General Education

Excluding private schools, the total primary school enrolment in 1964 was 376,263 of all races. In 1964, some 30,00 primary school leavers of all races wrote an examination for entry to secondary schools—an objective test divorced from environmental and home language backgrounds and the markers were not called upon to exercise judgment. Papers in English, arithmetic and special subjects were designed to test ability and aptitude.

Secondary school enrolment in 1964 increased to 13,871, of whom 8,890 were African. Examinations taken in the secondary schools included the Junior Secondary School Leaving Examination, 71 per cent of entrants obtaining certificates, whilst 223 took the Cambridge Overseas School Certificate and 908 took examinations of the Associated Examinations Board. In 1965, changes in the scheme of examinations taken by the schools have been effected.

Adult education at primary and secondary levels has increased enormously; enrolments in 1965 totalling 13,785. The Ministry of Education has planned a complete re-organisation of the administration of adult education, with an adult education branch at Ministry Headquarters and a network of adult education officers and organisers in every province working through Provincial Education Officers. The resultant expansion in the provinces will increasingly stretch the capacity of the day schools and premises for night classes.

In 1965, there were five major teacher training colleges, and six smaller institutions with a total of 1,571 students, of whom 142 completed a one-year course of in-service training.

3. Technical Education

Organisation and Administration

Technical education is the responsibility of the Ministry of Education. The Ministry of Labour and Social Development controls the apprenticeship system and is responsible for industrial training.

Technical and industrial training within government departments is co-ordinated through the Office of National Development and Planning within the Ministry of Labour and Social Development. The Ministry of Education is responsible for the provision of technical education at craft and technician level, much of the planning of which is the direct responsibility of the Adviser for Further Education.

Consultation between industry and technical training authorities has been facilitated by the establishment of a National Apprenticeship Council with its appropriate sub-committees. A new Council for Education is proposed as a National Co-ordinating Body.

Types of Institutions and Courses

The University of Zambia was opened in March, 1966, and provides degree courses in science, education, arts and economics. Plans are under consideration for the establishment of a Faculty of Engineering, including mining engineering, and for a Faculty of Medicine.

There is close collaboration between the Ministry of Education and the university authorities to ensure integration of Technical and Higher Education.

Northern Technical College in the Copper Belt provides courses at craft and technician level in mechanical, electrical and automobile engineering and steel fabrication.

In addition, expanding work includes technician courses in applied science, e.g., metallurgical technicians, chemical technicians, technicians in electronics, survey and other subjects associated with mining and

engineering. The College has ancillary centres in the Copper Belt towns and has a large number of apprentices taking the above courses on a block release system of training.

Evelyn Hone College of Further Education is concerned with commercial and business training, communication (journalism, broadcasting, television), hotel and catering trades, home economics and adult education.

There is also a Technological Department in which training is given in applied science and in telecommunications.

Future developments will include light engineering and in addition, the college may eventually expand its work to include a higher proportion of technician training in construction and engineering.

The David Kaunda Secondary Technical School was opened in January, 1965, and is intended to provide good general education with a technical bias for boys who are likely to become engineering technologists or first-class technicians. The school is essentially pre-vocational and the type of education including English, mathematics, chemistry, physics, workshop theory and practice and engineering drawing will provide a sound training and basic insight into the field of modern applied science and engineering. Consideration is being given to the establishment of a second school of this type on the Copper Belt. The enrolment in January, 1966, was approximately 220 and the school will eventually expand to 600 pupils.

There are three trade schools in Zambia operating on a three-year sandwich system of school and industrial training with sponsorship by industry.

The trade courses are mostly in building, brickwork, carpentry, electrical wireman, motor vehicle maintenance, and in 1966-67, additional trades will include plumbing, painting and wood-machining.

Consideration is being given to the establishment of additional schools of this type.

In addition to establishments under the direct control of the Ministry of Education, there are other training establishments which are the responsibility of other Government departments.

The Staff Training College with its departments of administration, executive, legal and local government training, aims to build up on existing foundations a local civil service in the highest tradition.

The Natural Resources Development College under the Ministry of Agriculture is concerned with the training of Government officers and others who will be concerned with the utilisation of natural resources in the rural economy of the country. In addition, the *Monze Agricultural School* provides agricultural technical training for young assistants and trainees, whilst also under the Ministry of Agriculture, the *Mazabuka Veterinary School* provides in-service courses for the training of veterinary staff.

Zambia also has a *Forestry Training School* giving two-year courses for foresters and rangers. Under the Ministry of Health, the training for the nursing profession is well established as well as training for medical technicians and health inspectors.

Thus the training establishments administered in departments other than education are fulfilling their main function of in-service training.

Arrangements for Technical Teacher Training

Graduate technical teachers are, at present, recruited from overseas and this will continue until the university-projected faculties in engineering and applied science have been fully established.

In the interim, technical instructors have been trained at local centres and in courses overseas in the United Kingdom, Canada and India. Plans are being made to provide authentic technical teacher training courses at a selected training college.

4. Apprenticeship

The Controller of Apprentices and the Apprenticeship Council of Zambia, of which he is chairman, working under the auspices of the Ministry of Labour and Social Development and the Ministry of Education, are jointly responsible for providing the framework of apprenticeship training.

Apprenticeship is organised in forty-six designated trades. Lads may be indentured at fifteen years of age, although sixteen or seventeen is the commoner age of late. The minimum educational qualification is Form II with passes in English, mathematics and two other subjects. Apprenticeship is normally of five years duration but remissions to a maximum of eighteen months are granted for successful completion of examinations and practical tests. All apprentices are tested annually and may not progress from one year to the next, or complete their course, unless satisfactory reports are received by the controller from the Inspector of Apprenticeship in respect of practical tests, and from the principals of technical colleges regarding progress and diligence in following the prescribed course.

Apprenticeship training is provided by large and small employers from both the Government and the private sector. While this applies particularly to the copper mining groups, there are an increasing number of apprenticeships being offered in both the construction and the communications industries, and the Government departments of mechanical services, works, transport and printing also have well-established apprenticeship schemes.

Co-ordination between technical education authorities and industry is achieved at the national level through the National Apprenticeship Council, on which both sides are represented, and at the local level through Government inspectors of apprentices. In addition, the Adviser for Further Education in the Ministry of Education and the Adviser for Industrial Training in the Ministry of Labour and Social Development maintain close liaison and are both members of the National Apprenticeship Council.

Most apprentices follow City and Guilds of London Institute courses and attend technical courses on a system of block release. The larger mining companies have their own apprenticeship training schools but are also required to release apprentices for the technical college courses.

5. Accelerated Vocational Training

It is proposed to set up building trades training centres under the auspices of the Ministry of Labour to run accelerated training programmes of six months duration for building operatives. Subject to final Government approval, the project will produce an estimated 2,000 operatives per year and a number of instructors starting from 1967 as part of the Four-Year Development Plan. It is expected to train the operatives for skills in limited aspects only of a specific trade as opposed to fully-skilled craftsmen who are trained in all skills of a trade. The type of work done by these operatives would be in line with present methods of the larger building contractors who arrange their workers in teams with each team carrying out a repetitive task.

6. In-industry Training

The Ministry of Labour and Social Development, through the Adviser on Industrial Training, has general responsibility for encouraging the promotion and development of in-industry training.

A few udertakings, notably the larger copper mining companies, have in-plant training programmes for semi-skilled and skilled workers and for supervisors, and, as mentioned above, a number of them also have their own apprentice training schools. The railways, several road haulage companies, and the "technical" Government departments, e.g., Transport, Works, Land and Natural Resources, Health and Agriculture, also have their own apprenticeship schemes. Up-grading of labourers to skilled worker status is very limited and when done is always accompanied by special tests in trade skills.

Training within industry for supervisors is mainly confined to the larger copper mining companies but the construction industry is in the process of evolving a training scheme for supervisors and small building contractors. The Public Works Department runs a Works Supervisors School, training assistant works supervisors, works supervisors and clerks of works.

Several of the copper mining companies and some of the Government departments employ full-time training officers, but there are no formal facilities for the training of training officers.

It is planned that a Management and Industrial Training Centre will be established early in 1967 to provide training facilities for managers, supervisors, and training officers.

7. National Planning for Vocational Training

The Adviser for Further Education (in collaboration with the Office for National Development and Planning and the Adviser for Industrial Training, Ministry of Labour) has initiated a comprehensive scheme for the training of learner craftsmen, technicians and technologists. The Development Plan is subject to Government approval and makes extensive provision for increased trade training, particularly for the construction industry, as well as the training of technicians in engineering, mining and metallurgy.

At this stage it can be said that the plan includes:

1. Increased trade training facilities for the construction and engineering industry;
2. Increased technician training in construction and engineering;
3. Increased junior technical training facilities within the framework of the Zambia National Manpower Survey.

In addition, recommendations are being implemented to provide the necessary specialist administration and co-ordination of technical education and to obtain the necessary qualified and trained personnel.

PRINTING TRADES CLASSES, PERTH TECHNICAL COLLEGE